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Mary Lou Wakimura	THANGAVELU, KANDASAMY

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/014,317	ABU EL ATA, NABIL A.
	Examiner	Art Unit	
	Kandasamy Thangavelu	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _26 October 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-46_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-46_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _05 March 2002_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _7/15/02 and 8/7/02_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☒ Other: _See Continuation Sheet_.

Continuation of Attachment(s) 6). Other: PTO-1449 of 10/14/04, 5/9/05 and 6/6/05.

DETAILED ACTION

1.   Claims 1-46 of the application have been examined.

Information Disclosure Statement

2.   Acknowledgment is made of the information disclosure statements filed on July 15, 2002, August 7, 2002, October 14, 2004, May 9, 2005 and June 2, 2005 together with copies of various papers. The patents and papers have been considered.

Drawings

3.   The drawings submitted on March 5, 2002 are accepted.

Specification

4.   The disclosure is objected to because of the following informalities:

Page 16, Line 6, "During the business refinement design phase" appears to be incorrect and it appears that it should be "During the business design refinement phase".

Page 17, Line 23, "the business process design, validated from the business

refinement design phase" appears to be incorrect and it appears that it should be "the

business process design validated from the business design refinement phase".

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the first paragraph of 35 U.S.C. §112:

> The specification shall contain a written description of the invention, and of the manner
> and process of making and using it, in such full, clear, concise, and exact terms as to enable any
> person skilled in the art to which it pertains, or with which it is most nearly connected, to make
> and use the same and shall set forth the best mode contemplated by the inventor of carrying out
> his invention.

6.   Claims 20, 23, 43 and 46 are rejected under 35 U.S.C. 112 First paragraph, as containing

subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention.

Claim 20 states, "The method of claim 19, repeats until all of the individual performance

metrics are within a predefined threshold of the individual performance benchmarks". It is not

understood as to what is repeated; if all the steps of claim 19 which includes all the steps of

claim 18 or only the limitations forming part of the performing a sensitivity analysis step.

Claim 23 states, "The method of claim 22, repeats until all of the actual performance metrics are within a certain accuracy of the individual performance metrics". It is not understood as to what is repeated; if all the steps of claim 22 which includes all the steps of claim 21 or only the additional limitations of claim 22.

Claim 43 states, "The system of claim 42, repeats until all of the individual performance metrics are within a predefined threshold of the individual performance benchmarks". It is not understood as to what is repeated since the system of claim 42 comprises the construction module and the performance metric calculation module.

Claim 46 states, "The system of claim 45, repeats until all of the actual performance metrics are within a certain accuracy of the individual performance metrics". It is not understood as to what is repeated since the system of claim 41 comprises a construction module and a performance metric calculation module and claim 45 comprises some steps and also includes the steps of claim 44.

7.   The following is a quotation of the second paragraph of 35 U.S.C. § 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.1.   Claims 1-19 are rejected under 35 U.S.C. § 112 Second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are:

Claim 1 deals with a method for improving predictive modeling of an information

system. However, the steps included in the method comprise only:

providing a description of a business solution comprising business components and

interactions among the business components and

generating a predictive model of the information system comprising a business layer

generated from the business solution description.

However, generating the predictive model of the information system **does not improve**

predictive modeling of an information system. Additional steps are required as included in

claims 18 to 20. These are:

calculating individual performance metrics for each component modeled in the

application and system layers from the dynamic characteristics and behavior;

comparing the calculated individual performance metrics against predefined individual

performance benchmarks to assess the accuracy of the predictive model;

performing a sensitivity analysis on individual component models that do not

substantially match a corresponding performance benchmark;

adjusting one or more parameters of an equation expressing the component model;

further calculating individual performance metrics for each component model in the

application and system layers;

comparing the individual performance metrics against individual performance

benchmarks to assess the accuracy of the predictive model; and

repeating until all of the individual performance metrics are within a predefined threshold of the individual performance benchmarks.

Claim 18 deals with a method for improving the accuracy of a predictive model of an information system. However, the steps included in the method comprise only:

generating a predictive model of an information system comprising a business layer, an application layer, and a system layer, each layer modeling dynamic characteristics and behavior of one or more components;

calculating individual performance metrics for each component modeled in the application and system layers from the dynamic characteristics and behavior;

comparing the calculated individual performance metrics against predefined individual performance benchmarks to assess the accuracy of the predictive model; and

performing a sensitivity analysis on individual component models that do not substantially match a corresponding performance benchmark.

However, performing a sensitivity analysis on individual component models **does not improve** the accuracy of a predictive model of an information system. Additional steps are required as included in claims 19 and 20. These are:

adjusting one or more parameters of an equation expressing the component model;

further calculating individual performance metrics for each component model in the application and system layers;

comparing the individual performance metrics against individual performance

benchmarks to assess the accuracy of the predictive model; and

repeating until all of the individual performance metrics are within a predefined threshold

of the individual performance benchmarks.

In addition to generate a predictive model of an information system comprising a

business layer, an application layer, and a system layer the step of providing a description of a

business solution comprising business components and interactions among the business

components is also required.

7.2   Claims 24-42 are rejected under 35 U.S.C. § 112, second paragraph, as being incomplete

for omitting essential elements, such omission amounting to a gap between the elements.   See

MPEP § 2172.01. The omitted elements are:

Claim 24 deals with a system for improving predictive modeling of an information

system. However, the elements included in the system comprise only:

an input module providing a description of a business solution to a construction module

and

the construction module generating a predictive model of the information system

comprising a business layer generated from the business solution description.

However, generating the predictive model of the information system **does not improve predictive modeling** of an information system. Additional elements are required as included in claims 41 to 43. These are:

a performance metric calculation module calculating individual performance metrics for each component modeled in the application and system layers from the dynamic characteristics and behavior;

the construction module comparing the calculated individual performance metrics against predefined individual performance benchmarks to assess the accuracy of the predictive model;

the construction module performing a sensitivity analysis on individual component models that do not substantially match a corresponding performance benchmark;

the construction module adjusting one or more parameters of an equation expressing the component model;

the performance metric calculation module further calculating individual performance metrics for each component model in the application and system layers;

the construction module comparing the individual performance metrics against individual performance benchmarks to assess the accuracy of the predictive model; and

the construction module repeating until all of the individual performance metrics are within a predefined threshold of the individual performance benchmarks.

Claim 41 deals with system for improving the accuracy of a predictive model of an information system. However, the elements included in the system comprise only:

a construction module generating a predictive model of an information system comprising a business layer, an application layer, and a system layer, each layer modeling dynamic characteristics and behavior of one or more components;

a performance metric calculation module calculating individual performance metrics for each component modeled in the application and system layers from the dynamic characteristics and behavior;

the construction module comparing the calculated individual performance metrics against predefined individual performance benchmarks to assess the accuracy of the predictive model; and

the construction module performing a sensitivity analysis on individual component models that do not substantially match a corresponding performance benchmark.

However, performing a sensitivity analysis on individual component models **does not improve** the accuracy of a predictive model of an information system. Additional elements are required as included in claims 42 and 43. These are:

the construction module adjusting one or more parameters of an equation expressing the component model;

the performance metric calculation module further calculating individual performance metrics for each component model in the application and system layers;

the construction module comparing the individual performance metrics against individual performance benchmarks to assess the accuracy of the predictive model; and

the construction module repeating until all of the individual performance metrics are

within a predefined threshold of the individual performance benchmarks.

In addition, to generate a predictive model of an information system comprising a

business layer, an application layer, and a system layer an input module providing a description

of a business solution to a construction module is also required.

Claims rejected but not specifically addressed are rejected based on their dependency on

rejected claims.

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9.   Claims 1-20 and 24-43 are rejected under 35 U.S.C. 101 because the claimed inventions

are directed to non-statutory subject matter.

9.1   Method claims 1-20 are rejected for reciting a process that is not directed to the

technological arts.

Regarding claim 1, this claim is directed at a method for improving predictive modeling

of an information system, whereas none of the limitations describe any type of computer-

implemented steps. To be statutory, the utility of an invention must be within the technological

arts. *In re Musgrave*, 167 USPQ 280, 289-90 (CCPA, 1970). The definition of "technology" is

the "application of science and engineering to the development of machines and procedures in

order to enhance or improve human conditions, or at least to improve human efficiency in some

respect." (Computer Dictionary 384 (Microsoft Press, 2d ed. 1994)).

Dependent claims 2-17 depend on Claim 1 but do not add further statutory steps.

The limitations recited in claims 1-17 contain no language suggesting these claims are

intended to be within the technological arts.

Regarding claim 18, this claim is directed at a method for improving the accuracy of a

predictive model of an information system, whereas none of the limitations describe any type of

computer-implemented steps. To be statutory, the utility of an invention must be within the

technological arts.

Dependent claims 19-20 depend on Claim 18 but do not add further statutory steps.

The limitations recited in claims 18-20 contain no language suggesting these claims are

intended to be within the technological arts.

9.2   System claims 24-43 are rejected for reciting a system that is not directed to the

technological arts.

Independent claim 24 recites a system for improving predictive modeling of an

information system. The limitations recited in claim contain abstract modules and steps which

are not statutory subject matter. To be statutory, the system should include computer system

hardware components and software components stored in memory which will be required to implement the method.

Dependent claims 25-40 depend on Claim 24 but do not add further statutory elements.

Independent claim 41 recites a system for improving the accuracy of a predictive model of an information system. The limitations recited in claim contain abstract modules and steps which are not statutory subject matter. To be statutory, the system should include computer system hardware components and software components stored in memory which will be required to implement the method.

Dependent claims 42-43 depend on Claim 41 but do not add further statutory elements.

10.1   Claims 1-17 would be **statutory** if claim 1 is rewritten as a computer implemented method for improving predictive modeling of an information system.

Claims 18-20 would be **statutory** if claim 18 is rewritten as a computer implemented method for improving the accuracy of a predictive model of an information system.

10.2   Claims 24-40 would be **statutory** if claim 24 is rewritten as:

A system for improving predictive modeling of an information system, comprising:

a computer with:

a processor to execute a program of instructions stored in the memory of the computer;

and

a memory to store a program of instructions for improving predictive modeling of an information system;

     an input module providing a description of a business solution to a construction module, the description of the business solution comprising business components and interactions among the business components; ...

Claims 41-43 would be **statutory** if claim 41 is rewritten as:

A system for improving the accuracy of a predictive model of an information system, comprising:

a computer with:

a processor to execute a program of instructions stored in the memory of the computer; and

a memory to store a program of instructions for improving the accuracy of a predictive model of an information system;

a construction module generating a predictive model of an information system comprising a business layer, an application layer, and a system layer, each layer modeling dynamic characteristics and behavior of one or more components; ...

Claim Rejections - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-
(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

12.   Claims 1-15, 17-20, 24-38 and 40-43 are rejected under 35 U.S.C. § 102(e) as being

anticipated by **McDonald et al.** (U.S. Patent 5,881,268).

12.1   **McDonald et al.** teaches Comparative performance modeling for distributed object

oriented applications. Specifically, as per claim 24, **McDonald et al.** teaches a system for

improving predictive modeling of an information system (Abstract, L1-6; Abstract, L12-16; Fig.

2, Item 36; CL1, L30-46), comprising:

an input module providing a description of a business solution to a construction module,

the description of the business solution comprising business components and interactions among

the business component (Fig. 2, Items 32 and 34; CL1, L18-20; CL7, L7-17); and

the construction module generating a predictive model of the information system (CL1,

L30-62; CL5, L10-13; CL5, L23-36), comprising a business layer generated from the business

solution description, the business layer modeling dynamic characteristics and behavior of the

business components and the interactions among the business components in response to

dynamic business workloads, such that a dynamic representation of the business solution results

(CL1, L18-20; CL7, L7-17; CL3, L8-42).

Per claim 25: **McDonald et al.** teaches the construction module generating an application

layer and a system layer of the predictive model, the application and system layers expressing

dynamic characteristics and behavior of corresponding application and system components that

support the business components and the interactions among them (CL1, L30-62; CL3, L6-32;

CL4, L36-50; CL5, L10-13); and

a performance metric calculation module calculating performance metrics from the

predictive model for each layer, the performance metrics of the business layer indicating whether

the business solution satisfies a set of business requirements regardless of whether the

performance metrics of the application and system layers are acceptable (Abstract, L1-6;

Abstract, L12-16; Fig. 2, Item 36; CL1, L36-62; CL3, L6-8; CL5, L23-36).

Per claim 26: **McDonald et al.** teaches that the performance metric calculation module

calculates performance metrics of the business layer as a function of the modeled dynamic

characteristics and behavior (CL1, L18-20; CL7, L7-17; CL1, L32-42; CL5, L26-33).

Per claim 27: **McDonald et al.** teaches that business components comprise business

processes or sub-processes, business functions or sub-functions, and data stores (CL1, L18-20;

CL7, L7-17; CL1, L32-35).

Per claim 28: **McDonald et al.** teaches that the dynamic characteristics and behavior of

an interaction between business components comprise one or more probabilities of delays (CL1,

L60-67).

Per claim 29: **McDonald et al.** teaches that a delay is associated with a conflict,

contention, or lock (CL1, L60-67).

Per claim 30: **McDonald et al.** teaches that a delay is associated with processing external

to a business component (CL1, L60-67).

Per claim 31: **McDonald et al.** teaches that the dynamic characteristics and behavior of

an interaction between business components comprise one or more probabilities of business

workload type being processed (Fig. 2, Item 32; CL7, L7-17; CL8, L44-45; CL8, L49-55; CL9,

L3-5).

Per claim 32: **McDonald et al.** teaches that the dynamic characteristics and behavior of

an interaction between business components comprise one or more probabilities of an occurrence

of one or more business events (CL7, L7-17; CL8, L49-55; CL9, L3-5).

Per claim 33: **McDonald et al.** teaches that the interaction is a merger of business

workload into a business component, the dynamic characteristics and behavior of the merger

comprising a probability of a delay associated with the merger (CL7, L7-17; CL1, L60-62; CL8,

L49-55; CL9, L1-5).

Per claim 34: **McDonald et al.** teaches that the interaction is an extraction of business

content from a business component, the dynamic characteristics and behavior of the extraction

comprising a probability of a delay associated with the extraction (Fig. 2, Item 34 and 36; CL1,

L32-35; CL1, L60-62; CL5, L26-29).

Per claim 35: **McDonald et al.** teaches that the dynamic characteristics and behavior of a

business component differs in response to business workload type or business event (CL7, L7-

17; CL8, L44-45; CL8, L49-55).

Per claim 36: **McDonald et al.** teaches that an execution sequence of business

components differs in response to business workload type or business event (CL8, L49-55; CL7,

L7-17; CL9, L1-15; CL9, L41-44; CL9, L48-56; CL9, L58-62; CL9, L65 to CL10, L14; CL1,

L60 to CL2, L3).

Per claim 37: **McDonald et al.** teaches that the execution sequence of business

components is affected by time constraints associated with a business event (CL7, L7-17; CL9,

L1-15; CL9, L41-44; CL9, L48-56; CL1, L60 to CL2, L3).

Per claim 38: **McDonald et al.** teaches that the execution sequence of business

components is dependent on locks (CL9, L1-15; CL9, L41-44; CL9, L48-56; CL1, L60 to CL2,

L3).

Per claim 40: **McDonald et al.** teaches that the business layer models the distribution of

processes, vertically into information system model including application layer, system layer,

and data stores or horizontally into sub-processes, sub-functions, and interactions (CL1, L18-20;

CL5, L9-12; CL7, L7-17; CL9, L1-15; CL9, L41-44; CL9, L48-56).

12.2   As per claim 41, **McDonald et al.** teaches a system for improving the accuracy of a

predictive model of an information system m (Abstract, L1-6; Abstract, L12-16; Fig. 2, Item 36;

CL1, L30-46), comprising:

a construction module generating a predictive model of an information system (CL1,

L30-62; CL5, L10-13; CL5, L23-36), comprising a business layer (CL1, L18-20; CL7, L7-17;

CL3, L8-42), an application layer, and a system layer, each layer modeling dynamic

characteristics and behavior of one or more components (CL1, L30-62; CL3, L6-32; CL4, L36-

50; CL5, L10-13);

a performance metric calculation module calculating individual performance metrics for

each component modeled in the application and system layers from the dynamic characteristics

and behavior (Abstract, L1-6; Abstract, L12-16; Fig. 2, Item 36; CL1, L36-62; CL3, L6-8; CL5,

L23-36);

the construction module comparing the calculated individual performance metrics against

predefined individual performance benchmarks to assess the accuracy of the predictive model

(Fig. 3, Items 40, 52, 54 and 56; CL1, L30-46; CL5, L9-12; CL5, L22-24; CL5, L33-36); and

the construction module performing a sensitivity analysis on individual component

models that do not substantially match a corresponding performance benchmark (CL5, L22-36).

Per claim 42: **McDonald et al.** teaches that the construction module performing a

sensitivity analysis further comprises:

the construction module adjusting one or more parameters of an equation expressing the

component model (CL1, L43-46);

the performance metric calculation module further calculating individual performance

metrics for each component model in the application and system layers (CL1, L36-42; CL1, L47

to CL2, L3; CL5, L326-32); and

the construction module comparing the individual performance metrics against individual

performance benchmarks to assess the accuracy of the predictive model (CL5, L22-36).

Per claim 43: **McDonald et al.** teaches the construction module repeating until all of the

individual performance metrics are within a predefined threshold of the individual performance

benchmarks (Fig. 2; Fig. 3, Item 56; CL1, L30-46).

12.3   As per Claims 1-15 and 17-20, these are rejected based on the same reasoning as Claims

24-38 and 40-43, supra. Claims 1-15 and 17-20 are method claims reciting the same limitations

as Claims 24-38 and 40-43, as taught throughout by **McDonald et al.**

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.

14.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness
          or nonobviousness.

15.   Claims 16 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over

McDonald et al. (U.S. Patent 5,881,268) in view of **Bannon et al.** (U.S. Patent 5,297,279), and

further in view of **Gloudeman et al.** (U.S. Patent 6,119,125).

15.1   As per claim 39, **McDonald et al.** teaches the system of claim 24. **McDonald et al.**

teaches that the business layer models dynamic characteristics and behavior of business

processes having different modes of operation, the modes of operation comprising transactional

processing (CL1, L18-20; CL7, L7-17; CL8, L49-55).

        McDonald et al. does not expressly teach that the business layer models dynamic

characteristics and behavior of business processes having different modes of operation, the

modes of operation comprising batch processing. **Bannon et al.** teaches that the business layer

models dynamic characteristics and behavior of business processes having different modes of

operation, the modes of operation comprising batch processing (CL6, L67 to CL7, L3), because

that allows the application developers to create and manipulate data models inherent in the

applications using object oriented design and data definition language (CL1, L20-23; CL6, L67

to CL7, L1: Cl6, L38-40). It would have been obvious to one of ordinary skill in the art at the

time of Applicant's invention to modify the system of **McDonald et al.** with the system of

Bannon et al. that included the business layer modeling dynamic characteristics and behavior of

business processes having different modes of operation, the modes of operation comprising batch

processing. The artisan would have been motivated because that would allow the application

developers to create and manipulate data models inherent in the applications using object

oriented design and data definition language.

      McDonald et al. does not expressly teach that the business layer models dynamic

characteristics and behavior of business processes having different modes of operation, the

modes of operation comprising messaging, or query-based processing. **Gloudeman et al.**

teaches that the business layer models dynamic characteristics and behavior of business

processes having different modes of operation, the modes of operation comprising messaging or

query-based processing (CL6, L26-30; CL7, L8-17), because that would allow information to be

passed between the standard objects by passing messages (CL6, L26-27); and allow the system

integrator to assemble the applications without worrying about the details of the underlying

physical system (CL1, L32-34). It would have been obvious to one of ordinary skill in the art at

the time of Applicant's invention to modify the system of **McDonald et al.** with the system of

Gloudeman et al. that included the business layer modeling dynamic characteristics and

behavior of business processes having different modes of operation, the modes of operation

comprising messaging or query-based processing. The artisan would have been motivated

because that would allow information to be passed between the standard objects by passing

messages; and would allow the system integrator to assemble the applications without worrying about the details of the underlying physical system.

15.2   As per Claim 16, it is rejected based on the same reasoning as Claim 39, supra. Claim 16 is a method claim reciting the same limitations as Claim 39, as taught throughout by **McDonald et al.**, **Bannon et al.** and **Gloudeman et al.**

16.   Claims 21-23 and 44-46 rejected under 35 U.S.C. 103(a) as being unpatentable over **McDonald et al.** (U.S. Patent 5,881,268) in view of **Peterson et al.** (U.S. Patent 6,327,551).

16.1   As per claim 44, **McDonald et al.** teaches the system of claim 41. **McDonald et al.** teaches the performance metric calculation module calculating individual performance metrics for each component model in the application and system layers for a variety of workloads (Abstract, L1-6; Abstract, L12-16; Fig. 2, Item 36; CL1, L36-62; CL3, L6-8; CL5, L23-36; CL8, L44 to CL9, L15; CL9, L27-31); and

the actual performance metrics being compared against the calculated individual performance metrics for the variety of workloads to assess stability of the prototype (Fig. 3, Item 40, 52, 54 and 56; CL8, L44 to CL9, L15; CL1, L43-46).

McDonald et al. does not expressly teach prototypes being constructed of at least a portion of the information system; and actual performance metrics being obtained from the prototype for the variety of workloads. **Peterson et al.** teaches prototypes being constructed of

at least a portion of the information system (CL1, L37-43; CL1, L63-65; CL2, L43-46; CL7,

L17-20); and actual performance metrics being obtained from the prototype for the variety of

workloads (CL7, L31-32; CL7, L35-40), because that would allow determining the deficiencies

by comparing the actual performance of the prototype against the performance predicted by the

calculation module, backtracking and adjusting the prototype and the prediction models, iterating

the procedure a number of times, until satisfactory performance is obtained from the prototype

(CL7, L35-40; CL1, L43-46). It would have been obvious to one of ordinary skill in the art at

the time of Applicant's invention to modify the system of **McDonald et al.** with the system of

Peterson et al. that included prototypes being constructed of at least a portion of the information

system; and actual performance metrics being obtained from the prototype for the variety of

workloads. The artisan would have been motivated because that would allow determining the

deficiencies by comparing the actual performance of the prototype against the performance

predicted by the calculation module, backtracking and adjusting the prototype and the prediction

models, iterating the procedure a number of times, until satisfactory performance was obtained

from the prototype.

16.2   As per claim 45, **McDonald et al.** and **Peterson et al.** teaches the system of claim 44.

McDonald et al. teaches the actual performance metrics being compared against individual

performance metrics to assess the stability of the reconstructed prototypes (Fig. 3, Item 40, 52,

54 and 56; CL8, L44 to CL9, L15; CL1, L43-46).

McDonald et al. does not expressly teach one or more prototypes that do not

substantially match the corresponding individual performance metrics being modified; and actual

performance metrics being further obtained from the reconstructed prototypes for the variety of

workloads. Peterson et al. teaches one or more prototypes that do not substantially match the

corresponding individual performance metrics being modified; and ctual performance metrics

being further obtained from the reconstructed prototypes for the variety of workloads (CL7, L35-

40), because that would allow determining the deficiencies by comparing the actual performance

of the prototype against the performance predicted by the calculation module, backtracking and

adjusting the prototype and the prediction models, iterating the procedure a number of times,

until satisfactory performance is obtained from the prototype (CL7, L35-40; CL1, L43-46). It

would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to

modify the system of McDonald et al. with the system of Peterson et al. that included one or

more prototypes that did not substantially match the corresponding individual performance

metrics being modified; and actual performance metrics being further obtained from the

reconstructed prototypes for the variety of workloads. The artisan would have been motivated

because that would allow determining the deficiencies by comparing the actual performance of

the prototype against the performance predicted by the calculation module, backtracking and

adjusting the prototype and the prediction models, iterating the procedure a number of times,

until satisfactory performance was obtained from the prototype.

16.3   As per claim 46, McDonald et al. and Peterson et al. teaches the system of claim 45.

McDonald et al. teaches the construction module repeating until all of the actual performance

metrics are within a certain accuracy of the individual performance metrics (Fig. 2; Fig. 3, Item

56; CL1, L30-46).

16.4   As per Claims 21-23, these are rejected based on the same reasoning as Claims 44-46,

supra. Claims 21-23 are method claims reciting the same limitations as Claims 44-46, as taught

throughout by **McDonald et al.** and **Peterson et al.**

Conclusion

17.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is

571-272-3717. The examiner can normally be reached on Monday through Friday from

8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Leo Picard, can be reached on 571-272-3749. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or

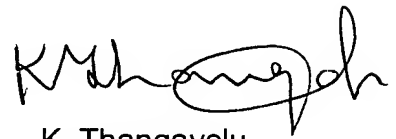proceeding should be directed to TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

K. Thangavelu
Art Unit 2123
June 16, 2005